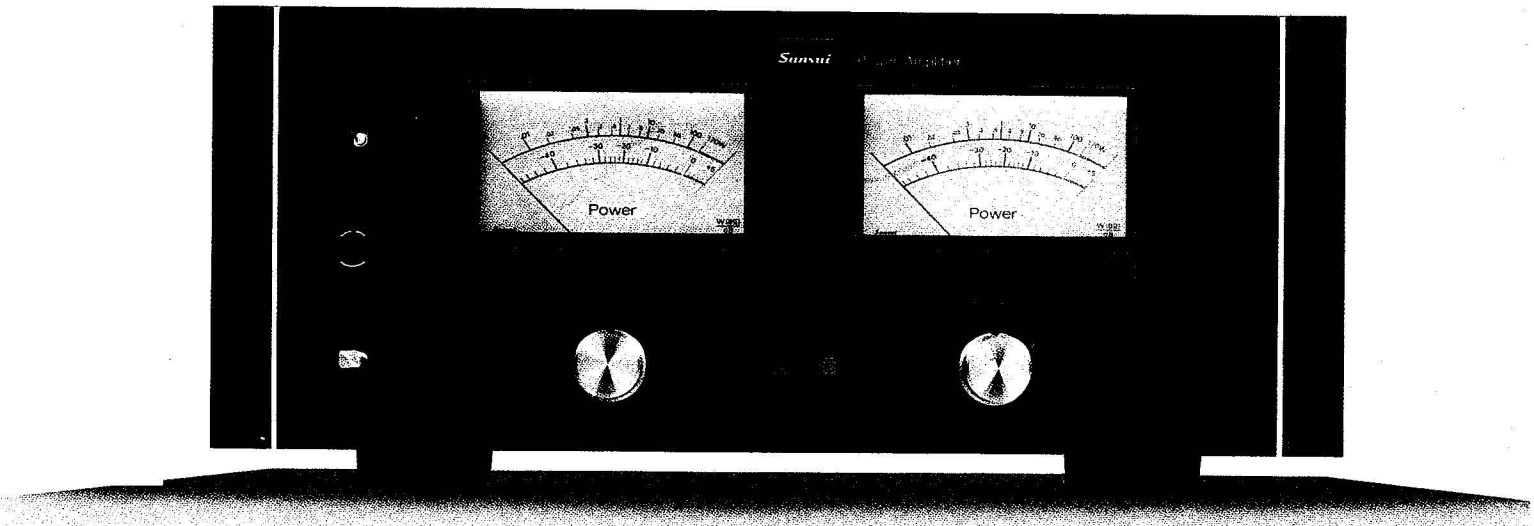
SERVICE MANUAL

POWER AMPLIFIER

SANSUI BA-3000



Sansui

SANSUI ELECTRIC CO., LTD.

1. SPECIFICATIONS

POWER OUTPUT

Min. RMS, both channels driven, 20 to 20,000Hz, with no more than 0.05% total harmonic distortion in stereo operation

170 watts per channel into 8 ohms
170 watts per channel into 4 ohms
85 watts per channel into 16 ohms

Min. RMS, both channels driven, at 1,000Hz, with no more than 0.05% total harmonic distortion in stereo operation.
180 watts per channel into 8 ohms
170 watts per channel into 4 ohms
95 watts per channel into 16 ohms

Min. RMS, from 20 to 20,000Hz, with no more than 0.05% total harmonic distortion in mono (BTL) operation.

340 watts into 8 ohms
340 watts into 16 ohms

Min. RMS, at 1,000Hz, with no more than 0.05% total harmonic distortion in mono (BTL) operation.
340 watts into 8 ohms
360 watts into 16 ohms

LOAD IMPEDANCE
In stereo operation .....4, 8, 16 ohms
In mono (BTL) operation ..8, 16 ohms

POWER BANDWIDTH .....20 to 20,000Hz at or below rated min. RMS, power output and total harmonic distortion

TOTAL HARMONIC DISTORTION
.....less than 0.05% at or below rated min. RMS power output

INTERMODULATION DISTORTION
(70Hz : 7,000Hz=4 : 1 SMPTE mothod)
.....less than 0.05%

FREQUENCY RESPONSE (at 1 watt)
.....5Hz to 100kHz $^{+0}_{-1}$ dB

DAMPING FACTOR .....approximately 100 at 8 ohms load

CHANNEL SEPARATION (at rated output, 1kHz)
.....better than 60dB

HUM AND NOISE (IHF) ....better than 100dB

INPUT SENSITIVITY AND IMPEDANCE
(1kHz, for rated output) ..700mV 50kΩ

SUBSONIC FILTER .....−3dB at 15Hz (12dB/oct)

GENERAL

POWER VOLTAGE.....100, 120, 220, 240V 50/60Hz
120V (Usable 110—130V)
(for U.S.A. & Canada only)

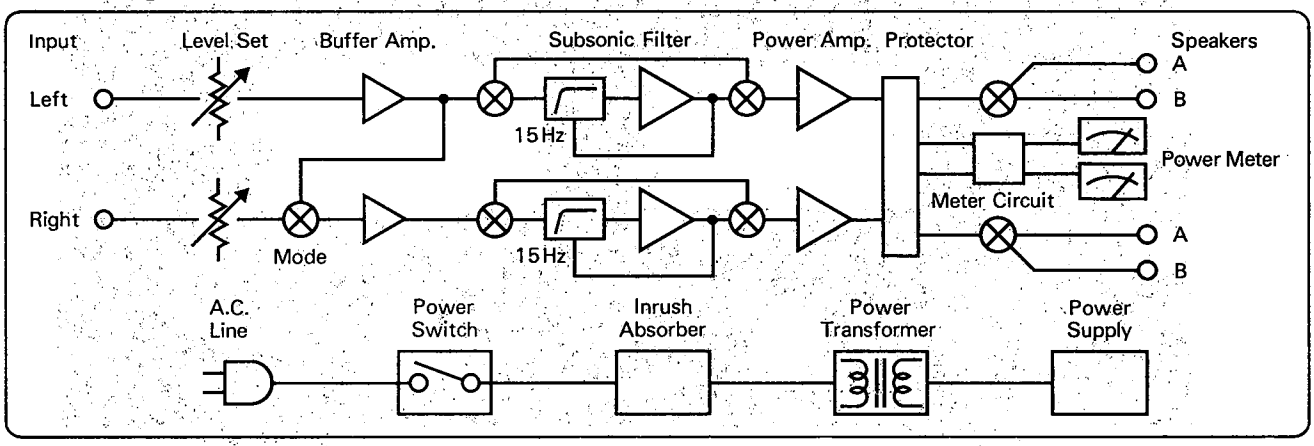
POWER CONSUMPTION..1,100 watts (max.)
350 watts (rated)

DIMENSIONS .....460mm (18⅛″) W
178mm (7 ⅛″) H
400mm (15¾″) D

WEIGHT .....22.6kg (49.8 lbs.) net
25.4kg (56.0 lbs.) packed

* Design and specifications sbject to change without notice for improvements.

2. BLOCK DIAGRAM



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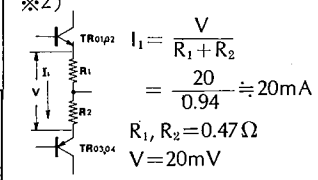
3. ADJUSTMENTS

3-1. Driver Circuit Board Adjustments (Fig. 1, 2, 3, 4)

Note: 1. Master Volume.....Minimum
2. Room Temperature .....10~35°C
3. For adjustment, run the unit for more than 5 minutes after ther power is switched on.

STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1.	DC 0V	DC Volt Meter	Speaker Terminal Fig. 4	F-2507 VR01 (Fig. 3)	0V ±10mV	VR02....Minimum (Counterclockwise) ※2)
2.	Blas Current	DC Volt Meter	F-2510 2-4 (Connector Pin) (Fig. 2)	F-2507 VR02 (Fig. 3)	20mV ※ 1)	



※ 1) Instead of measuring bias current, set the voltage to 20mV by VR02 between connector-pins 2 and 4 on both channels as Fig. 2, since there are no quick acting fuses in the power amplifier sections.

※ 2) On one channel, bias current, I_1 is current which flows into one power transistor, 2SC1585. Nemaly, total current on one channel=$I_1 \times 3$
L-CH.....TR01, TR05, TR09
R-CH TR02, TR06, TR10

Fig. 2

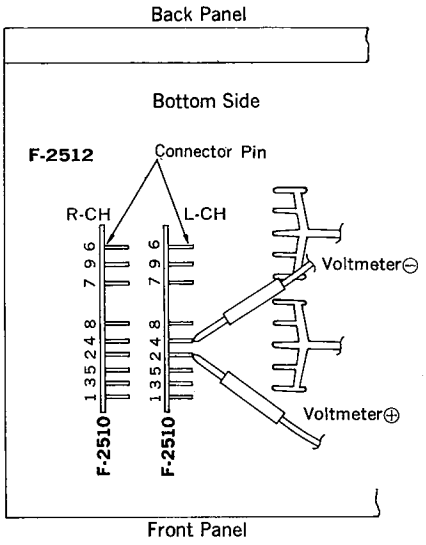


Fig. 3

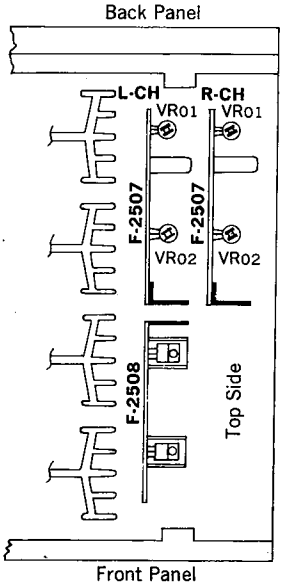
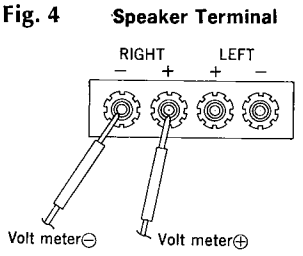


Fig. 4



3-2. Power Meter Adjustment (Fig. 5, 6, 7)

Note: 1. Room Temperature .....18~28°C
2. Level Volume .....Maximum
3. Input Signal .....Sine Curve (1kHz)
4. Speaker load 8Ω
5. For adjustment, run the unit for more than 5 minutes after the power is switched on.

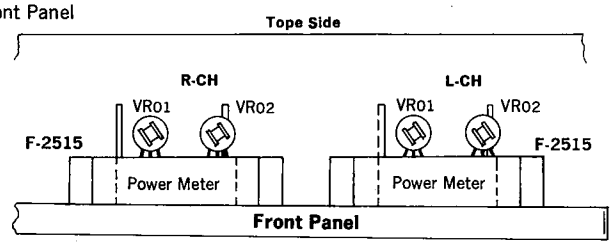


Fig. 7

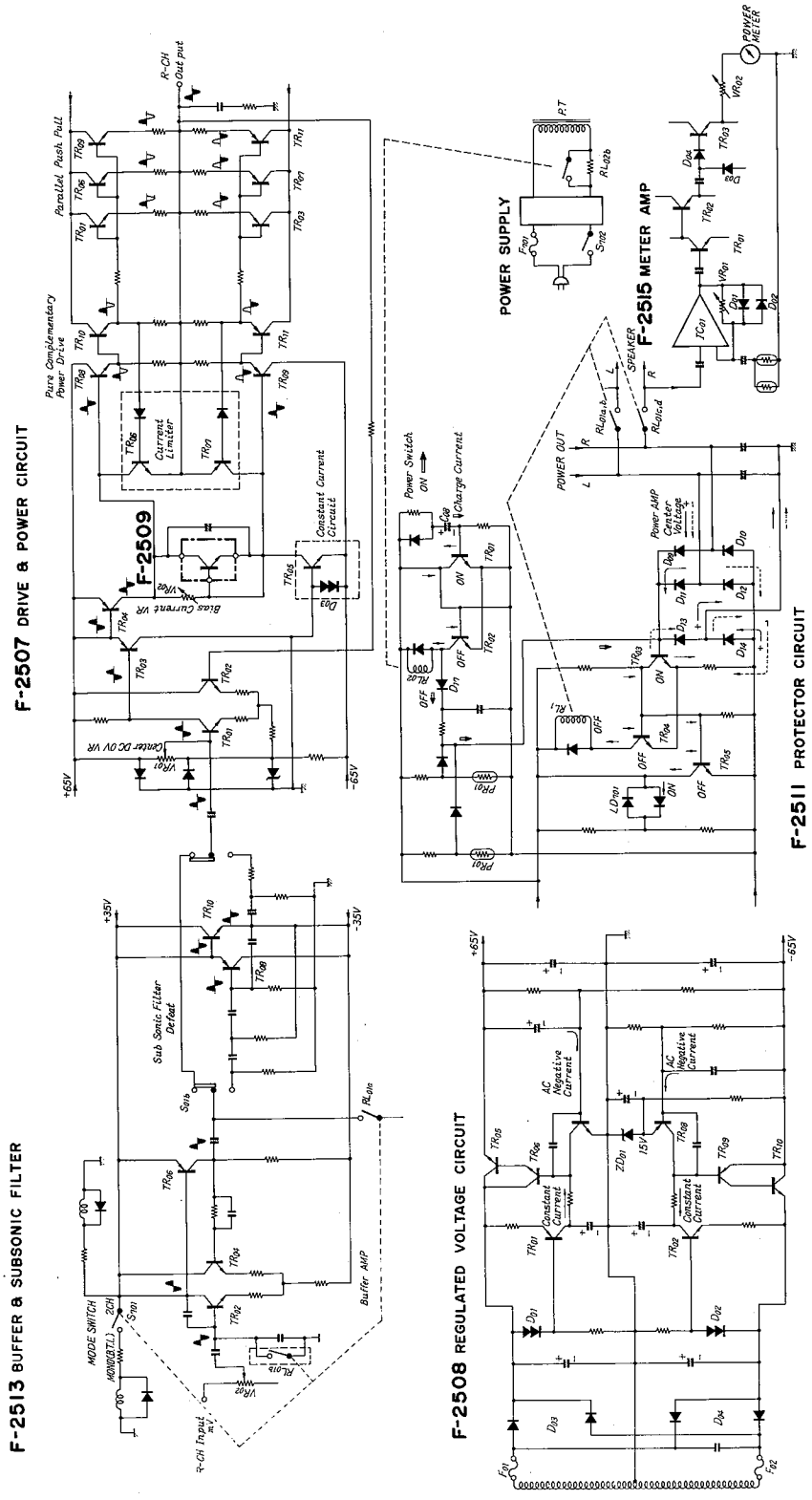
STEP	SUBJECT	OUTPUT LEVEL	ADJUST	METER POSITION
1.	Power Meter Adjustment	36.9V (0dB)	F-2515 VR02 Fig. 7)	0dB (Fig. 5)
2.	Power Meter Adjustment	369mV (−40dB)	F-2515 VR01 (Fig. 7)	−40dB (Fig. 6)
3.	Confirm the Step 1 again. If the meter position is not within 0dB ±1dB, repeat from step 1, 2.			

※ On both channels, above adjustments are necessary.

4. TROUBLESHOOTING CHART

4-1. Operation Block Diagram

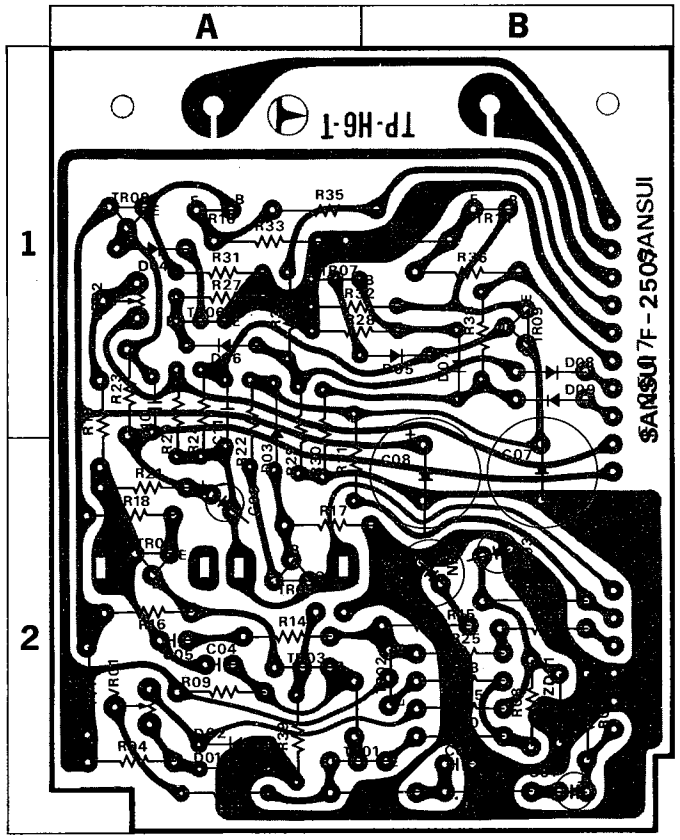
The operation of each section is outlined in the block diagram shown below. Please utilize the diagram together with "Main Trobleshooting on Each Section" in this manual, if necessary.



5. PARTS LOCATIONS AND PARTS LISTS

5-1. F-2507 Driver Circuit Board (Stock No. 7571121 Complete Circuit Board F-2507)

Conductor Side



Parts List

Parts No.	Stock No.	Description		Position
TR01	0306270, 1	2SC1708 (F, G)	Transistor	2A, B
	0306290, 1	2SC1400 (E, U)		
TR02	0306270	2SC1708 (F, G)		2B
	0306290, 1	2SC1400 (E, U)		
TR03	0300710, 1	2SA847 (F, G)		2A
TR04	0300700, 1	2SA818 (O, Y)		2A
	0306260, 1	2SC1628 (O, Y)		
TR06	0305951, 2	2SC945 (Q, P)		1A
TR07	0300510, 1	2SA733 (P, Q)		1A, B
TR08	0306260, 1	2SC1628 (O)		1A
TR09	0300700, 1	2SA818 (O, Y)		1B
TR10	0306250~2	2SC1669LB (R,O,Y)		1A
TR11	0300690~2	2SA839LB (R, O, Y)		1B
D01	0311160	1S2473D	Diode	2A
D02	0311160	1S2473D		2A
D03	0340120	VD1212		2A
D04	0311160	1S2473D		1A
D05	0311160	1S2473D		1B
D06	0311160	1S2473D		1A
D07	0311160	1S2473D		1B
D08	0311160	1S2473D		1B
D09	0311160	1S2473D		
ZD01	0316330	RD-15E B		2B
	0316340	RD-15E C		

Parts No.	Stock No.	Description	Position
C01	0519102	3.3μF 50V E.C.	2B
C02	0660680	68pF 50V C.C.	2B
C03	0512470	47μF 16V E.C.	2B
C04	0660220	22pF 50V C.C.	2A
C05	0660209	2pF 50V C.C.	2A
C06	0530101	100μF 6.3V E.C.	2B
C07	0519903	100μF 80V E.C.	1, 2B
C08	0519903	100μF 80V E.C.	1, 2B
C09	0515339	3.3μF 50V E.C.	2A
C10	0657473	47000pF 50V C.C.	1A
C11	0657473	47000pF 50V C.C.	1, 2A
R01	0107224	220kΩ ¼W C.R.	2B
R02	0107472	4.7kΩ ¼W C.R.	2B
R03	0107102	1kΩ ¼W C.R.	2A, B
R04	0107682	6.8kΩ ¼W C.R.	2A
R05	0107822	8.2kΩ ¼W C.R.	2B
R06	0103103	10kΩ ½W C.R.	2B
R07	0107104	100kΩ ¼W C.R.	2A
R08	0107682	6.8kΩ ¼W C.R.	2B
R09	0107472	4.7kΩ ¼W C.R.	2A
R10	0107101	100Ω ¼W C.R.	2B
R11	0107331	330Ω ¼W C.R.	1, 2A
R12	0107331	330Ω ¼W C.R.	2A
R13	0107101	100Ω ¼W C.R.	2B
R14	0107681	680Ω ¼W C.R.	2A
R15	0107182	1.8kΩ ¼W C.R.	2B
R16	0107682	6.8kΩ ¼W C.R.	2A
R17	0107333	33kΩ ¼W C.R.	2A, B
R18	0107121	120Ω ¼W C.R.	2A
R19	0107392	3.9kΩ ¼W C.R.	1, 2A
R20	0107102	1kΩ ¼W C.R.	1, 2A
R21	0107560	56Ω ¼W C.R.	2A
R22	0107121	120Ω ¼W C.R.	1, 2A
R23	0107391	390Ω ¼W C.R.	1A
R24	0107391	390Ω ¼W C.R.	1, 2A
R25	0107683	68kΩ ¼W C.R.	2B
R26	0107821	820Ω ¼W C.R.	2B
R27	0107122	1.2kΩ ¼W C.R.	1A
R28	0107122	1.2kΩ ¼W C.R.	1A, B
R29	0107123	12kΩ ¼W C.R.	1, 2A
R30	0107123	12kΩ ¼W C.R.	1, 2A
R31	0107222	2.2kΩ ¼W C.R.	1A
R32	0107222	2.2kΩ ¼W C.R.	1A, B
R33	0103470	47Ω ½W C.R.	1A
R34	0103470	47Ω ½W C.R.	1A, B
R35	0103479	4.7Ω ½W C.R.	1A, B
R36	0103479	4.7Ω ½W C.R.	1B
R37	0107331	330Ω ¼W C.R.	1A
R38	0107680	68Ω ¼W C.R.	1B
R39	0107103	10kΩ ¼W C.R.	2A
VR01	1035350	4.7kΩ (B) Volume	2A
VR02	1035310	1kΩ (B) Volume	1A
	2420290	6P Connector A type	
	2420310	10P Connector A type	

4-2. Main Troubleshooting on Each Section

1. Troubles on Power Supply Section

Symptom	Cause
1-1. Voltage ±B not supplied to F-2513, F-2515 or F-2507	
1) Defective AC line of power section	1. AC Fuse F701 open
	2. Imperfect contact of AC switch, S702
	3. R01 or R02 open on F-2511
	4. Inoperative inrush absorber circuit
2) ±85V, Input voltage not supplied to F-2508	5. F01 or F02 open on F-2511
	6. Defective D03 or D04 on F-2511
3) ±35V not suppied to F-2513 and F-2515	7. Defective D01 or D02 on F-2508
	8. Defective TR01, TR02 or TR05~TR11 on F-2508
	9. Defective ZD01 on F-2508
4) ±65V not supplied to F-2507	10. Defective D01 or D02 on F-2508
	11. Defective TR03, TR04 or TR11~TR16
	12. Defective ZD02 on F-2508

2. Troubles on Power Amplifier Section

2-1. Power Amplifier inoperative (Protector lamp lighted)	
1) AC Fuse opens	1. Power transistor shorted
	2. TR01 opened on F-2509
	3. TR10 or TR11 shorted on F-2507
2) AC fuse not opened	4. TR08 or TR09 shorted on F-2507
	5. D06 or D07 shorted on F-2507
	6. TR02, TR06 or TR07 shorted on F-2507
2-2. Inproper Bias Current	7. VR02 or VR03 out of adjustment or defective on F-2507
	8. TR01 shorted on F-2509

3. Buffer Amplifier or Subsonic Filter Inoperative

1) Low and high filter inoperative	1. Imperfect contact of S01 on F-2513
	2. Defective TR07~TR10 on F-2513
2) MONO (B.T.L.) circuit inoperative	3. Defective MODE switch S701 or relay RL01
	4. Defective TR02, TR04 or TR06 on F-2513

4. Troubles on Power Meter Circuit

1. VR01 or VR02 out of adjustment or F-2515
2. Defective IC01 or F-2515
3. Defective D01~D04 or F-2515
4. Defective TR01~TR03 or F-2515
5. Defective power meter

5. Troubles on Speaker Protector Circuit

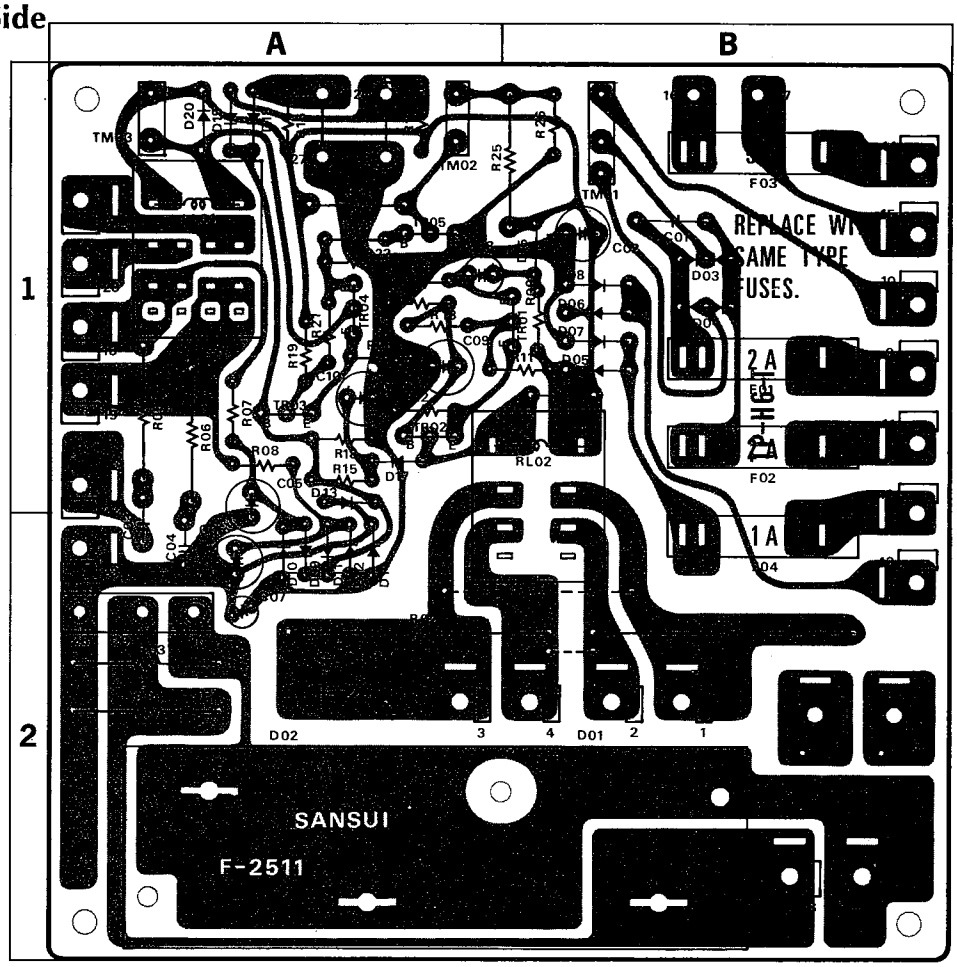
1) Relay, RL01 not switched OFF	1. Defective D09~D14 on F-2511
	2. Defective TR03 or TR04 on F-2511
	3. Defective reley, RL01
2) RL01 & RL02 not switched OFF at the moment when setting power switch to ON	4. Defective C08 on F-2511
	5. Defective TR01 or TR02 on F-2511
	6. Defective relay, RL02
	7. RL01 inoperative due to defective D17 on F-2511
3) When power transistors overheat, protector relay RL01 inoperative	8. Defective posistor PR01 on F-2509
4) Protector indicator lamp not lighted	9. Defective TR05 on F-2511
	10. Defective LED, LD701

*As each voltage of speaker protector circuit floats from chassis, it can not be measued to the earth point.

*Refer to Schematic Diagram.

5-2. F-2511 SP Protector Circuit Board (Stock No. 7501111 Complete Circuit Board F-2511)

Conductor Side



Parts List

Parts No.	Stock No.	Description		Position
TR01	0306131~3	2SC1364 (6, 7, 8)	Transistar	1 B
TR02	0306131~3	2SC1364 (6, 7, 8)		1 A
TR03	0306131~3	2SC1364 (6, 7, 8)		1 A
TR04	0306131~3	2SC1364 (6, 7, 8)		1 A
TR05	0306131~3	2SC1364 (6, 7, 8)		1 A
D01	0311440	SG5T-S	Diode	2 B
D02	0311450	SG5T-R		2 A
D03	0310530	1S1850		1 B
	0311420	C08P-2-N		
D04	0310540	1S1850R		1 B
	0311430	C08P-2-R		
D05	0310340	10D1		1 B
D06	0310340	10D1		1 B
D07	0310340	10D1		1 B
D08	0310340	10D1		1 B
D09	0311160	1S2473D		2 A
D10	0311160	1S2473D		2 A
D11	0311160	1S2473D		2 A
D12	0311160	1S2473D		2 A
D13	0311160	1S2473D		1 A
D14	0311160	1S2473D		2 A
D15	0311160	1S2473D		1 B

Parts No.	Stock No.	Description				Position
D16	0310340	10D1	Diode			1 B
D17	0311160	1S2473D				1 A
D18	0311160	1S2473D				1 A
D19	0311160	1S2473D				1 A
D20	0310340	10D1				1 A
C01	0659011	10000pF		500V	C.C.	1 B
C02	0515470	47μF		50V	E.C.	1 B
C03, 04	0601108	0.1μF		50V	M.C.	1 B, 2 A
C05	0530470	47μF	±30%	6.3V		1, 2 A
C06	0530470	47μF	±30%	6.3V		2 A
C07	0535109	1μF		50V	E.C.	2 A
C08	0519102	3.3μF		50V	E.C.	1 A, B
C09	0510470	47μF		6.3V	E.C.	1 A
C10	0515100	10μF		50V	E.C.	1 A
C901	0659011	10000pF		500V	C.C.	
C902	0659011	10000pF				
C903	0659011	10000pF				
C904	0659011	10000pF				
C905	0513100	10μF		25V	C.C.	
R01	0157399	3.9Ω	7W	Ce.R.		
R02	0157399	3.9Ω	7W	Ce.R.		
R03	0202392	3.9kΩ	2W	Ce.R.		

to be continued

F-2511

Parts No.	Stock No.	Description	Position
R04	0202392	3.9kΩ 2W } Ce.R.	2 A
R05, 06	0132479	4.7Ω 2W } Ce.R.	1 A
R07	0110473	47kΩ	1 A
R08	0110473	47kΩ	1 A
R09	0110273	27kΩ	1 B
R10	0110182	1.8kΩ	1 A
R11	0110123	12kΩ	1 A, B
R12	0110100	10Ω	1 A
R13	0110472	4.7kΩ	1 A
R14	0110153	15kΩ	1 A
R15	0110104	100kΩ ¼W S.R.	1 A
R16	0110333	33kΩ	1 A
R17	0110333	33kΩ	1 A
R18	0110104	100kΩ	1 A
R19	0110123	12kΩ	1 A
R20	0110220	22Ω	1 A
R21	0110472	4.7kΩ	1 A
R22	0110153	15kΩ	1 A
R23	0107122	1.2kΩ ¼W C.R.	1 A
R24	0103181	1.8kΩ ½W C.R.	1 A
R25	0162561	560Ω 2 W Ce.R.	1 B
R26	0107221	220Ω ¼W C.R.	1 B
RL01	1150101	MY4-02-US Relay Switch	1 A
RL02	1150310	LY2-0-Y34 Relay Switch	1 A, B
F01	0431242	2A 250V } AC Fuse	1 B
F02	0431242	2A 250V } AC Fuse	1 B
F03	0431282	5A 250V } AC Fuse	1 B
F04	0431222	1A 250V	2 B
	2310051	P Type Fuse Holder	
	2410580	3P Pin Ass'y D type	

5-3. F-2510 Circuit Board for installing emitter

(Stock No. 7592611 Complete Circuit Board F-2510)

Ports No.	Stock No.	Description
	2410760	3P Pin Ass'y C type
	2410780	6P Pin Ass'y C type

5-4. F-2514 Meter Lamp Circuit Board

(Stock No. 7592641 Complete Circuit Board F-2514)

Parts No.	Stock No.	Description
PL01~03	0420050	7V 320MA Pilot Lamp
	2310051	P Type Fuse Holder

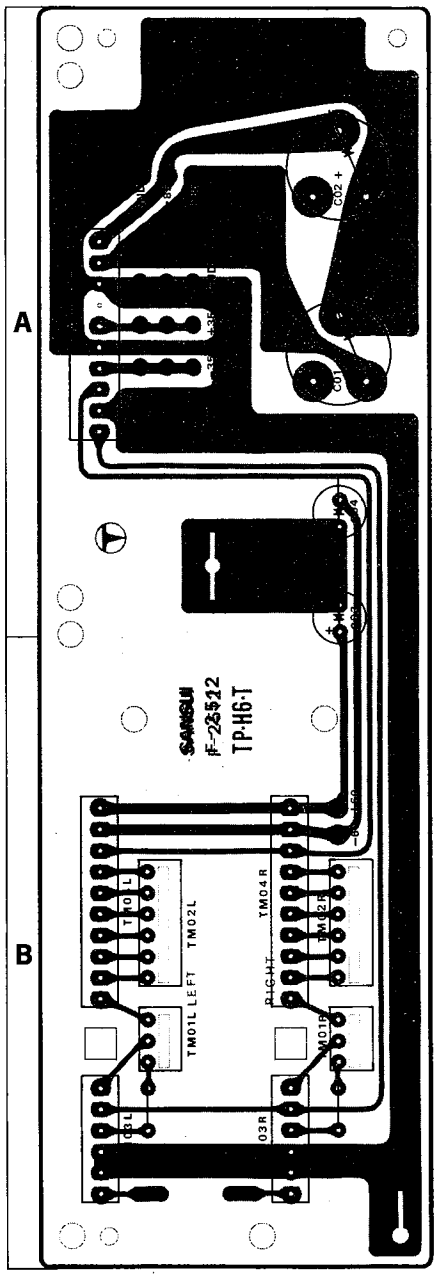
5-5. F-2506 Input Terminal Circuit Board

(Stock No. 7592591 Complete Circuit Board F-2506)

5-6. F-2512 Connector Circuit Board

(Stock No. 7592921 Complete Circuit Board F-2512)

Conductor Side

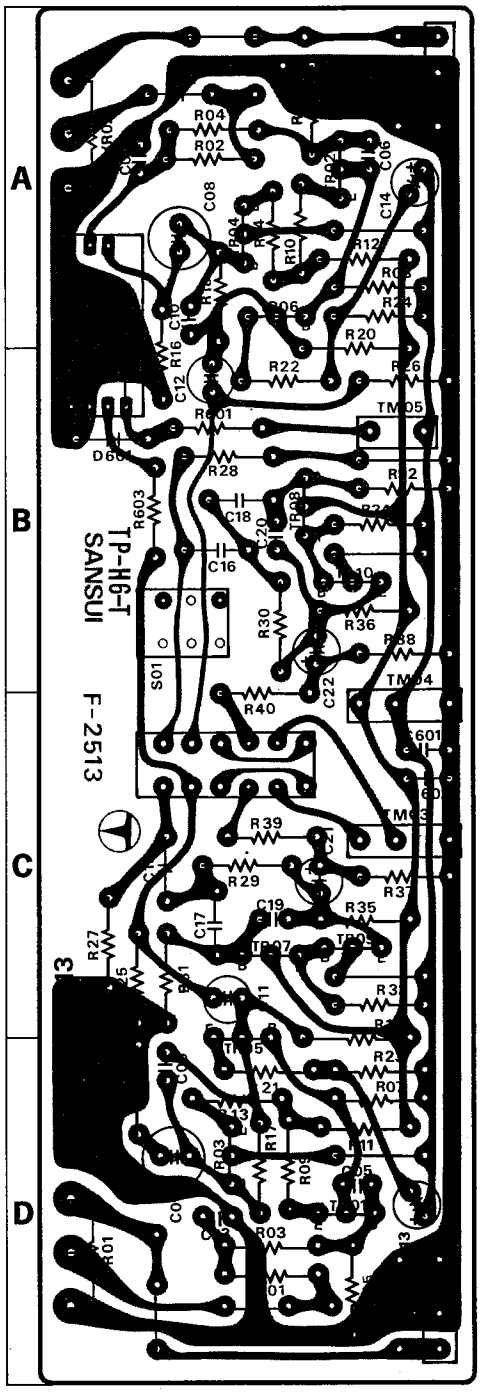


Parts List

Parts No.	Stock No.	Description	Position
C01	0549401	470μF } 100V E.C.	A
C02	0549401	470μF } 100V E.C.	A
C03	0519401	22μF } 100V E.C.	A, B
C04	0519401	22μF } 100V E.C.	A
	2410730	6P Pin Ass'y A type	
	2410750	10P Pin Ass'y A type	
	2410880	10P Pin Ass'y B type	
	2420320	3P Connector A type	
	2420340	6P Connector A type	

5-7. F-2513 Filter Circuit Board (Stock No. 7592631 Complete Circuit Board F-2513)

Conductor Side

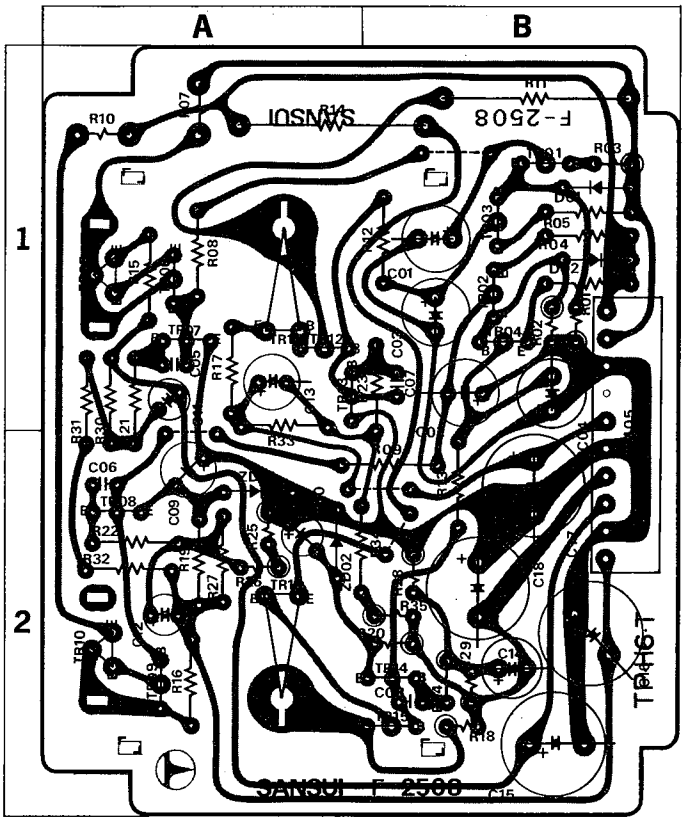


Parts List

Parts No.	Stock No.	Description	Position
TR01, 02	0306071, 2	2SC1313 (G, H)	D . A
TR03, 04	0306071, 2	2SC1313 (G, H)	D . A
TR05, 06	0300720, 1	2SA850 (C, D) Transistor	C , D . A
TR07, 08	0300470, 1	2SA726 (F, G)	C . B
TR09, 10	0306270, 1	2SC1708 (F, G)	C . B
D601	0310340	10D-1 (1S2226)	B
C01, 02	0601228	0.22μF 50V M.C.	C . A
C03, 04	0660330	33pF 50V C.C.	C . A
C05, 06	0660100	10pF 50V C.C.	C . A
C07, 08	0530470	47μF 6.3V E.C.	C . A
C09, 10	0660100	10pF 50V C.C.	C . A
C11, 12	0533339	3.3μF 25V E.C.	C . B
C15, 16	0600228	0.22μF 50V M.C.	C . B
C17, 18	0600228	0.22μF 50V M.C.	C . B
C19, 20	0660151	150pF 50V	C . B
C21, 22	0533339	3.3μF 25V E.C.	C . B
C602	0657473	47000pF 50V C.C.	C
C603	0657473	47000pF 50V C.C.	
R01, 02	0107332	3.3kΩ ¼W C.R.	D . A
R03, 04	0107102	1kΩ ¼W C.R.	D . A
R05, 06	0107474	470kΩ ¼W C.R.	D . A
R07, 08	0107473	47kΩ ¼W C.R.	D . A
R09, 10	0107560	56Ω ¼W C.R.	D . A
R11, 12	0107124	120kΩ ¼W C.R.	D . A
R13, 14	0107560	56Ω ¼W C.R.	D . A
R15, 16	0107104	100kΩ ¼W C.R.	D . A , B
R17, 18	0107473	47kΩ ¼W C.R.	D . A
R19, 20	0103822	8.2kΩ ½W C.R.	C, D. A, B
R21, 22	0107470	47Ω ¼W C.R.	D . B
R23, 24	0107821	820Ω ¼W C.R.	D . A
R25, 26	0107473	47kΩ ¼W C.R.	D . β
R27, 28	0107473	47kΩ ¼W C.R.	D . B
R29, 30	0107273	27kΩ ¼W C.R.	D . B
R31, 32	0107823	82kΩ ¼W C.R.	D . B
R33, 34	0107334	330kΩ ¼W C.R.	D . B
R35, 36	0107183	18kΩ ¼W C.R.	D . B
R37, 38	0107473	47kΩ ¼W C.R.	D . B
R39, 40	0107222	2.2kΩ ¼W C.R.	D . B , C
R601	0107681	680Ω ¼W C.R.	B
R603	0107473	47kΩ ¼W C.R.	B
RL01	1150320	HA-224N Relay Switch	A , B
VR01, 02	1000330, 1	100kΩ (B) Volume	D . A
S01	1131090	Push Switch	B
	2410580	3P Pin Ass'y D type	
	2410650	2P Pin Ass'y D type	

5-8. F-2508 Power Supply Voltage Circuit Board (Stock No. 7501101 Complete Circuit Board F-2508)

Conductor Side



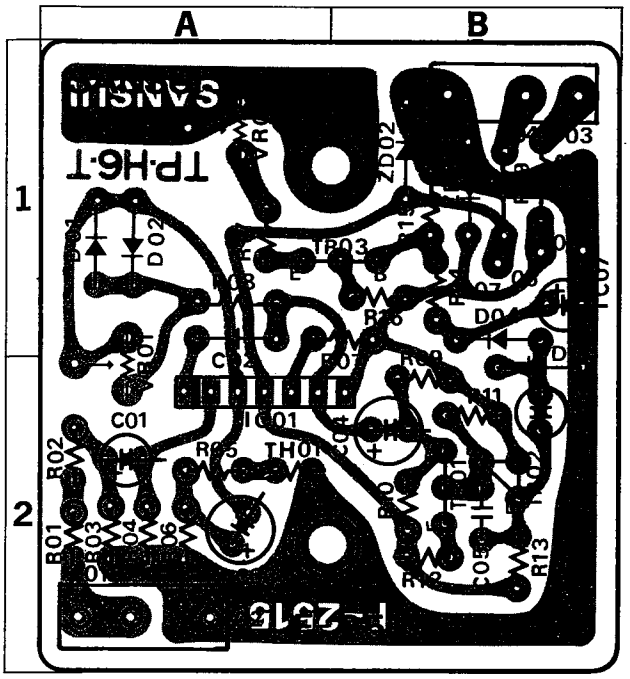
Parts List

Parts No.	Stock No.	Description		Position
TR01	0300720	2SA850 (C, D)	Transistor	1 B
TR02	0306280, 1	2SC1735 (C, D)		1 B
TR03	0300720, 1	2SA850 (C, D)		1 B
TR04	0306280, 1	2SC1735 (C, D)		1 B
TR05	0308431~3	2SD381 (M, L, K)		1 A
TR06	0306280, 1	2SC1735 (C, D)		1 A
TR07	0306270, 1	2SC1708 (F, G)		1 A
TR08	0300710, 1	2SA847 (F, G)		2 A
TR09	0300720	2SA850 (C, D)		2 A
TR10	0308431~3	2SD381 (M, L, K)		2 A
TR11	0308441~3	2SD382 (M, L, K)		1 A
TR12	0306280, 1	2SC1735 (C, D)		1 A
TR13	0306071, 2	2SC1313 (G, H)		1 A
TR14	0300470, 1	2SA726 (F, G)		2 B
TR15	0300720, 1	2SA850 (C, D)		2 B
TR16	0308441~3	2SD382 (M, L, K)		2 A
D01	0340120	VD1212	Diode	1 B
D02	0340120	VD1212	Diode	1 B
ZD01	0316340	RD-15E C	Diode	2 A
ZD02	0316340	RD-15E C	Diode	2 A

Parts No.	Stock No,	Description			Position
C01	0519404	10μF	100V	E.C.	1 B
C02	0519404	10μF	100V	E.C.	1 B
C03	0515470	47μF	50V	E.C.	1 B
C04	0515470	47μF	50V	E.C.	1 B
C05	0660101	100 pF	50V	C.C.	1 A
C06	0660101	100 pF	50V	C.C.	2 A
C07	0660101	100 pF	50V	C.C.	1 B
C08	0660101	100 pF	50V	C.C.	2 B
C09	0512330	33μF	16V	E.C.	2 A
C10	0512330	33μF	16V	E.C.	2 A
C11	0519403	2.2μF	100V	E.C.	1 A
C12	0519403	2.2μF	100V	E.C.	2 A
C13	0515100	10μF	50V	E.C.	1 A
C14	0515100	10μF	50V	E.C.	2 B
C15	0519302	220μF	75V	E.C.	2 B
C16	0519302	220μF	75V	E.C.	2 B
C17	0515331	330μF	50V	E.C.	2 B
C18	0515331	330μF	50V	E.C.	2 B
R01	0106473	47kΩ			1 B
R02	0106473	47kΩ			1 B
R03	0106122	1.2kΩ	¼W	C.R.	1 B
R04	0107122	1.2kΩ	¼W	C.R.	1 B
R05	0107561	560Ω	¼W	C.R.	1 B
R06	0107561	560Ω	¼W	C.R.	1 B
R07	0162151	150Ω	2 W	Ce.R.	1 A
R08	0107822	8.2kΩ	¼W	C.R.	1 A
R09	0107822	8.2kΩ	¼W	C.R.	2 A, B
R10	0162151	150Ω	2 W	Ce.R.	1 A
R11	0185331	330Ω	5 W	Ce.R.	1 B
R12	0107123	12kΩ	¼W	C.R.	1 B
R13	0107123	12kΩ	¼W	C.R.	2 B
R14	0185331	330Ω	5 W		1 A, B
R15	0107100	10Ω			1 A
R16	0107100	10Ω			2 B
R17	0107100	10Ω			1 A
R18	0106100	10Ω			2 B
R19	0107223	22kΩ			2 B
R20	0106103	10kΩ			2 B
R21	0107562	5.6kΩ			1, 2 A
R22	0107562	5.6kΩ			2 B
R23	0107562	5.6kΩ			1 B
R24	0106562	5.6kΩ			1 B
R25	0106182	1.8kΩ	¼W	C.R.	2 A
R26	0106123	12kΩ	¼W	C.R.	2 B
R27	0107473	47kΩ			2 B
R28	0106153	15kΩ			2 B
R29	0106183	18kΩ			2 B
R30	0107563	56kΩ			1, 2 A
R31	0107102	1kΩ			1, 2 A
R32	0107563	56kΩ			2 B
R33	0107333	33kΩ			1 A
R34	0107102	1kΩ			2 A, B
R35	0107333	33kΩ			2 B
	2420310	10P Connector A type			

5-9. F-2515 Meter Amplifier Circuit Board (Stock No. 7592651 Complete Circuit Board F-2515)

Conductor Side



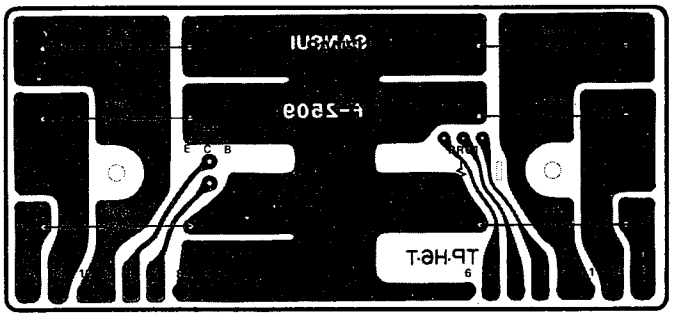
Parts List

Parts No.	Stock No.	Description	Position
TR01	0305951, 2	2SC945 (Q, P) } Transistor	2 B
TR02	0305951, 2	2SC945 (Q, P) } Transistor	2 B
TR03	0306071	2SC1313 (G) } Transistor	1 A, B
	0306161	2SC1312 (F) } Transistor	
IC01	0360280	TA-7136P IC	2 A, B
D01	0340120	VD1212 } Diode	1 A
D02	0340120	VD1212 } Diode	1 A
D03	0311160	1S2473D } Diode	2 B
D04	0311160	1S2473D } Diode	1 B
ZD601	0316330	RD-15E (B) } Diode	1 B
	0316340	RD-15E (C) } Diode	
ZD602	0316330	RD-15E (B) } Diode	1 B
	0316340	RD-15E (C) } Diode	
C01	0515109	1μF 50V E.C.	2 A
C02	0660100	10pF 50V C.C.	1 A
C03	0513100	10μF } 25V E.C.	2 A
C04	0513100	10μF } 25V E.C.	2 B
C05	0660151	150pF 50V C.C.	2 B
C06	0535109	1μF 50V E.C.	2 B
C07	0573688	0.68μF 35MV T.C.	1 B
C901	0660330	33pF 50V C.C.	
R03	0106101	100Ω } ¼W C.R.	2 A
R04	0106154	150kΩ } ¼W C.R.	2 A
R05	0106102	1kΩ } ¼W C.R.	2 A
R06	0106272	2.7kΩ } ¼W C.R.	2 A
R07	0106104	100kΩ } ¼W C.R.	1 A, B
R08	0106821	820Ω } ¼W C.R.	1 A
R09	0106474	470kΩ } ¼W C.R.	2 B
R10	0106563	56kΩ } ¼W C.R.	2 B
R11	0106183	18kΩ } ¼W C.R.	2 B
R12	0106332	3.3kΩ } ¼W C.R.	2 B
R13	0106392	3.9kΩ } ¼W C.R.	2 B
R14	0106684	680kΩ } ¼W C.R.	1 B
R15	0106474	470kΩ } ¼W C.R.	1 B
R16	0106182	1.8kΩ } ¼W C.R.	1 B
R17	0106471	470kΩ } ¼W C.R.	1 A
R100	0106273	27kΩ } ¼W C.R.	
R601	0201821	820Ω } 1 W C.R.	
R602	0201821	820Ω } 1 W C.R.	
R901	0107681	680Ω ¼W C.R.	
VR01	1035490	1MΩ B } Volume	1, 2 A
VR02	1035310	1kΩ B } Volume	1 A
	2410580	3P Pin Ass'y D type	

5-10. F-2509 Circuit Board for installing connector

(Stock No. 7592601 Complete Circuit Board F-2509)

Conductor Side

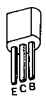
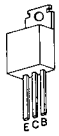
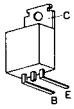
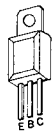
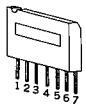


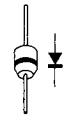
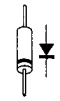
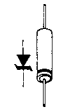
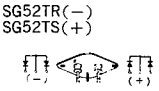
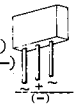
Parts List

Parts No.	Stock No.	Description
TR01	0306131~3	2SC1364 (6, 7, 8) Transistor
PR01	0320120	Posistor
R01	0135478	0.47Ω } 5W Ce.R.
R02	0135478	0.47Ω } 5W Ce.R.
R03	0135478	0.47Ω } 5W Ce.R.
R04	0135478	0.47Ω } 5W Ce.R.
R05	0135478	0.47Ω } 5W Ce.R.
R06	0135478	0.47Ω } 5W Ce.R.

5-11. Figures

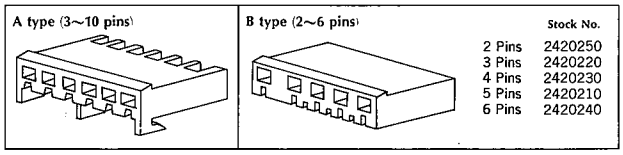
Semiconductors

SEMICONDUCTORS	COMPLETE CIRCUIT BOARD
2SA726 2SA847 2SA850 2SC1313 2SC1708 2SC1735	F-2513 F-2508 F-2507
2SA733 2SC1400 2SC1364 2SC945 	F-2507 F-2511 F-2509 F-2515
2SD381 	F-2508
2SA839 2SC1669 2SD382 	F-2507 F-2508
2SA818 2SC1628 	F-2507
TA7136 	F-2515
2SA908 2SB554 2SC1585 2SD424	POWER TRANSISTOR

SEMICONDUCTORS	COMPLETE CIRCUIT BOARD
10D-1 	F-2511
VD1212	F-2515 F-2507 F-2508
1S2473 	F-2511 F-2507 F-2515
RD-15E 	F-2508 F-2507 F-2515
SG52TR(−) SG52TS(+) 	F-2511
1S1850(+) 1S1850R(−) 	F-2511

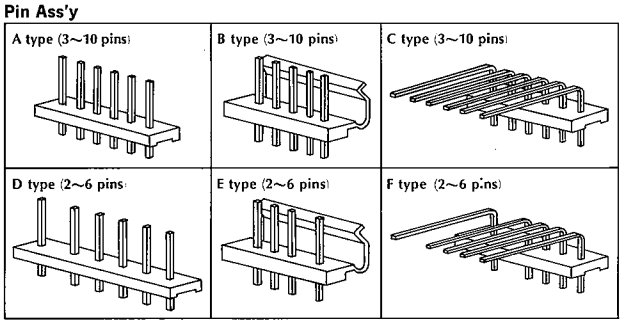
Connector & Pin Ass'y

Connector



NOTE: Since stock number of famale connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

Pin Ass'y



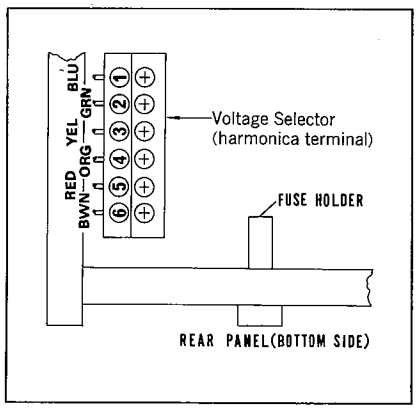
Abbreviations

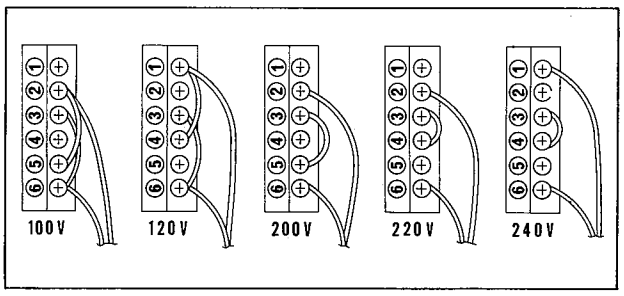
C.R. : Carbon Resistor
S.R. : Solid Resistor
Ce.R. : Cement Resistor
M.R. : Metallized Film Resistor
M.C. : Mylar Capacitor
E.C. : Electrolytic Capacitor
BP.E.C.: Bi-Polar Electrolytic Capacitor
C.C. : Ceramic capacitor
Mi.C. : Mica Capacitor
O.C. : Oil Capacitor
P.C. : Polystyrene Capacitor
T.C. : Tantalum Capacitor

5-12. Power Supply Voltage changeover

*In accordance with AC line voltage in your area, input AC voltages of this unit can be easily obtained by changing connections as shown in Fig. 5-1.

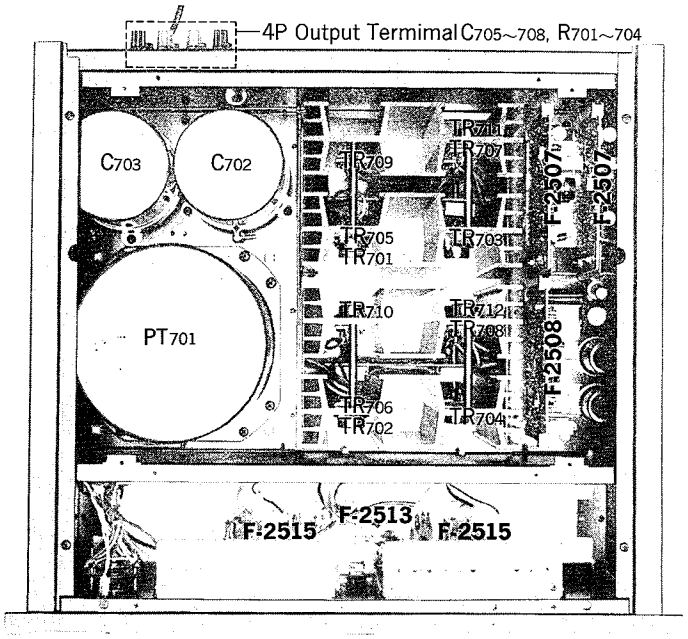
Fig. 5-1



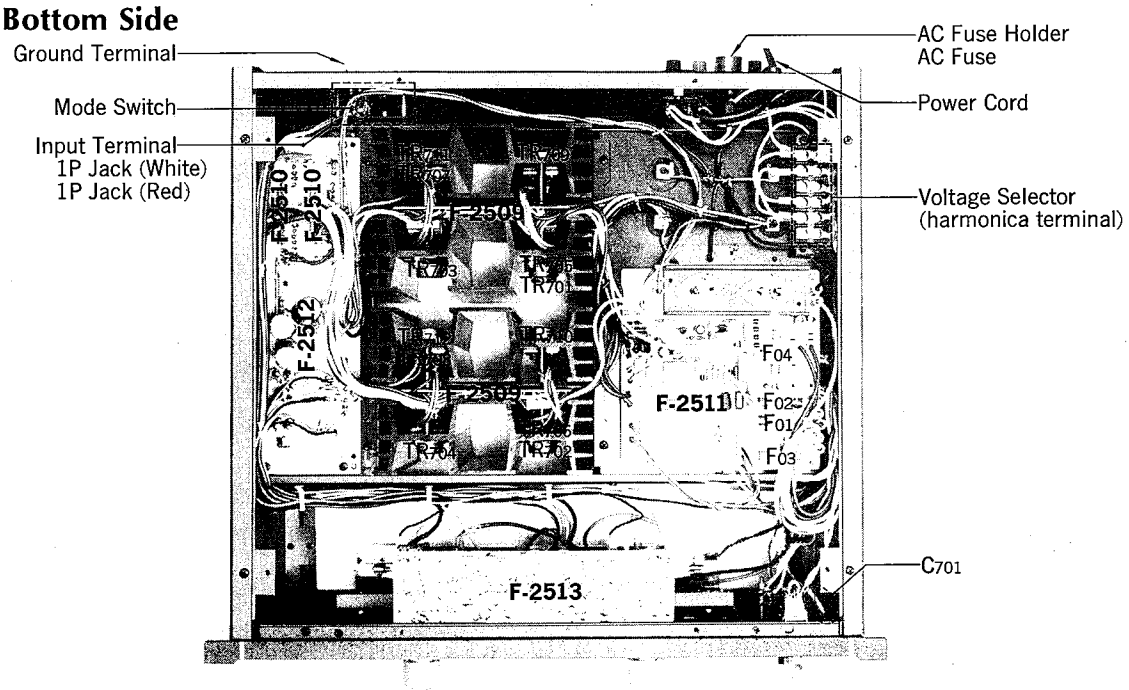


5-13. Other Parts (Top, Bottom Side)

Top Side



Bottom Side

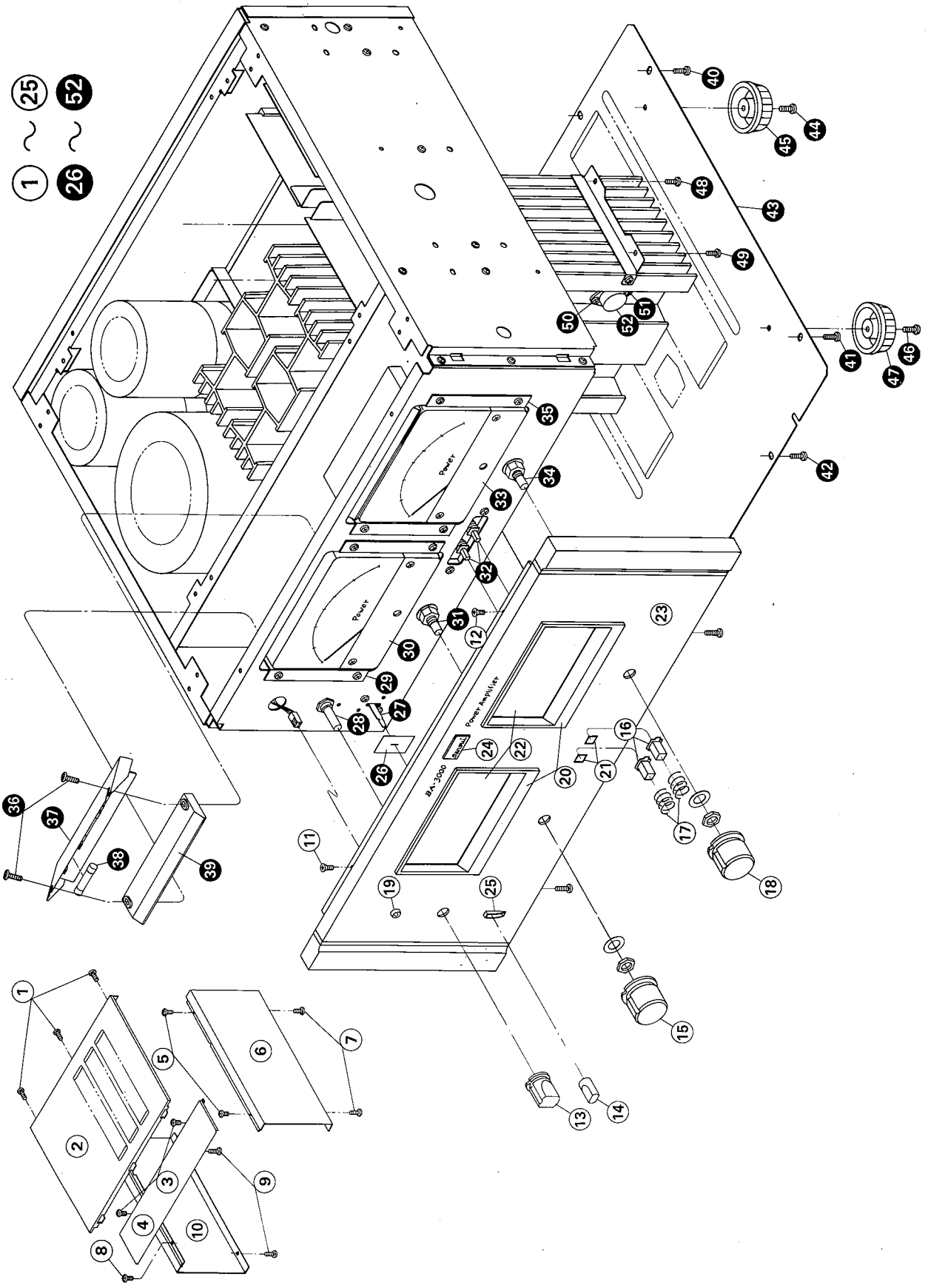


Other Part List

Parts No.	Stock No.	Description
TR701, 702	0306310~2	2SC1585 R, O, Y
	0308470, 1	2SD424 R, O
TR703, 704	0300730~2	2SA908 R, O, Y
	0303300, 1	2SB554 R, O
TR705, 706	0306310~2	2SC1585 R, O, Y
	0308470, 1	2SD424 R, O
TR707, 708	0300730~2	2SA908 R, O, Y
	0303300, 1	2SB554 R, O
TR709, 710	0306310~2	2SC1585 R, O, Y
	0308470, 1	2SD424 R, O
TR711, 712	0300730~2	2SA908 R, O, Y
	0303300, 1	2SB554 R, O
	2030040	Power Transistor Socket
PT701	4002241	Power Transformer
	2300040	Fuse Holder

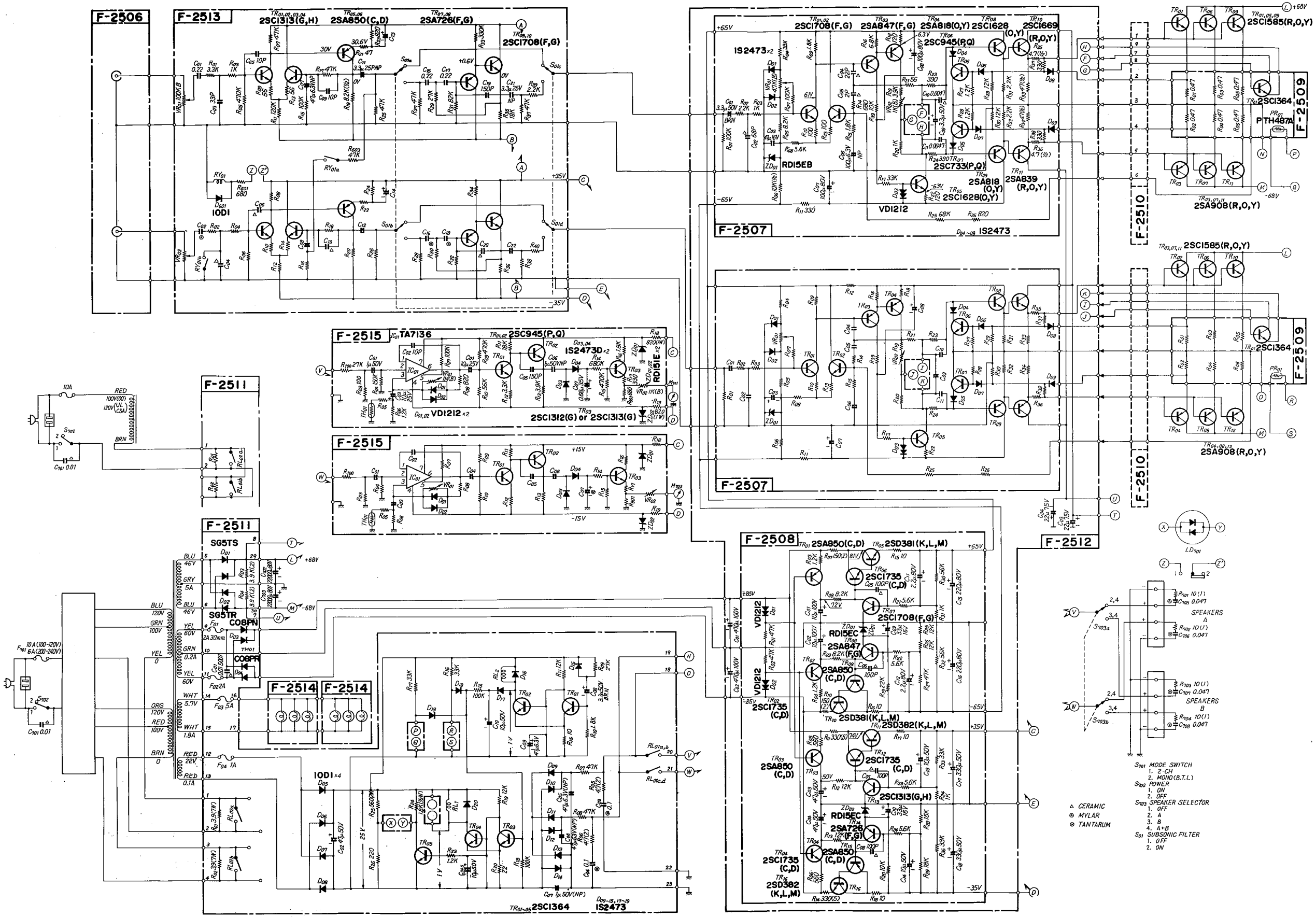
Parts No.	Stock No.	Description
PT701	0431320	10A 250V AC Fuse (100V~120V)
	0431392	6A 250V AC Fuse (220V~240V)
	2230051	Ground Terminal
	2210280	4P Output Terminal
	2430260	1P Jack (White) } Input Terminal
	2430270	1P Jack (Red) } Input Terminal
	2450060	AC Outlet
	3800250	Power Cord
	1110300	Mode Switch
C701	0659801	0.01μF 150V C.C.
C702	0559842	22000μF 80V E.C.
C703	0559842	22000μF 80V E.C.
C705~708	0601477	0.047μF 50V C.C.
R701~704	0104100	10Ω 1W C.R.
	2240040	Voltage Selector (harmonica terminal)

5-14. Other Parts (Front Side)



6. SCHEMATIC DIAGRAM

* La présentation et les spécifications sont susceptibles d'êtra modifiées sans préavis par suite d'améliorations éventuelles.
* A nderunger, die dem technischen Fortschritt dienen, bleiben vorbehalten.
* Design and specifications subject to change without notice for improvements.

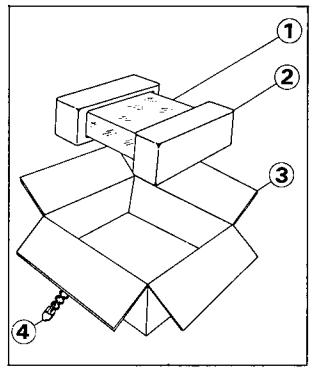


5-14. Other Parts List (Front Side)

Parts No.	Stock No.	Description
1	5109222	Binding Head Tapping Screw, M3×8
2	5006410	Bonnet (2)
3	5109222	Binding Head Tapping Screw, M3×8
4	5006400	Bonnet (1)
5	5109222	Binding Head Tapping Screw, M3×8
6	5309700	Dress Panel, Right
7	5109222	Binding Head Tapping Screw, M3×8
8	5109222	Binding Head Tapping Screw, M3×8
9	5109222	Binding Head Tapping Screw, M3×8
10	5309690	Dress Panel, Left
11	5102843	Flat Counter Sunk Head Screw, M3×6
12	5102843	Flat Counter Sunk Head Screw, M3×6
13	5318280	F-6 Type Knob, Speaker Switch
14	5326510	E-2 Type Knob, Power Switch
15	5318240	A-6 Type Knob, Left Level Volume
16	5326530	Push Knob
17	6906480	Spring, Push Knob
18	5318240	A-6 Type Knob, Right Level Volume
19	7726120	LED Ass'y, Power Protector Indicator
20	5309740	Meter Hood
21	5286720	Knob Guide
22	5446220	Meter Glass
23	7007070	Front Panel Ass'y
24	5336580	Sansui Mark
25	5286730	Lever Guide
26	5047460	Masking, Lever Switch
27	1170330	Lever Switch, Power Switch (S702)
28	1102630, 1	Y-2-4-4, Speaker Switch (S703)
29	5286640	Meter Holder Plate
30	4300830	Power Meter
31	1000330, 1	Level Volume 100kΩB
32	1131090	Subsonic Filter Switch
33	4300830	Power Meter
34	1000330, 1	Level Volume, 100kΩB
35	5286640	Meter Holder Plate
36	5101047	Binding Head Screw, M3×14
37	5286691	Illuminator Cover
38	0420040	Meter Lamp, 7V 320mA
39	5446230	Illuminator Plate
40	5109222	Binding Head Tapping Screw, M3×8
41	5109222	Binding Head Tapping Screw, M3×8
42	5109222	Binding Head Tapping Screw, M3×8
43	5058380	Bottom Plate
44	5101047	Binding Head Tapping Screw, M3×14
45	5517050	Leg
46	5101047	Binding Head Screw, M3×14
47	5517050	Leg
48	5109222	Binding Head Tapping Screw, M3×8
49	5109222	Binding Head Tapping Screw, M3×8
50	5109222	Binding Head Tapping Screw, M3×8
51	5109222	Binding Head Tapping Screw, M3×8
52		Power Transistor

7. PACKING LIST

Parts No.	Stock No.	Description
1	9116650	Vinyl Cover
2	9027890	Stylofoam Packing
3	9008310	Carton Case
4	5996080	Carl Stopper



8. ACCESSORY PARTS LIST

Parts No.	Stock No.	Description
1	9208870	Operating Instruction
2	9238760	Schematic Diagram

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